

The Transparent Trap: A Multidisciplinary Perspective on the Design of Transparent Online Disclosures in the EU

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Abstract

In its drive to prevent market failures and safeguard consumers, the European legislator has embraced the information approach. In the context of online trade, this requires online traders to disclose ever-growing amounts of information to consumers regarding contract terms, the handling of their personal information, and the use of cookies on the trader's website, to name just a few of the areas involved. However, whilst adopting substantive information obligations for traders, the European legislator still tends to disregard scholarship on effective information design. This paper recommends empirically tested, interdisciplinary criteria for the design of effective disclosures online, with a focus on their application in the EU. Without clear guidance as to how disclosures should be formulated, traders are left open to accidental or purposeful obfuscation.

Keywords: transparency, information obligations, online communication, consumer protection, information design.

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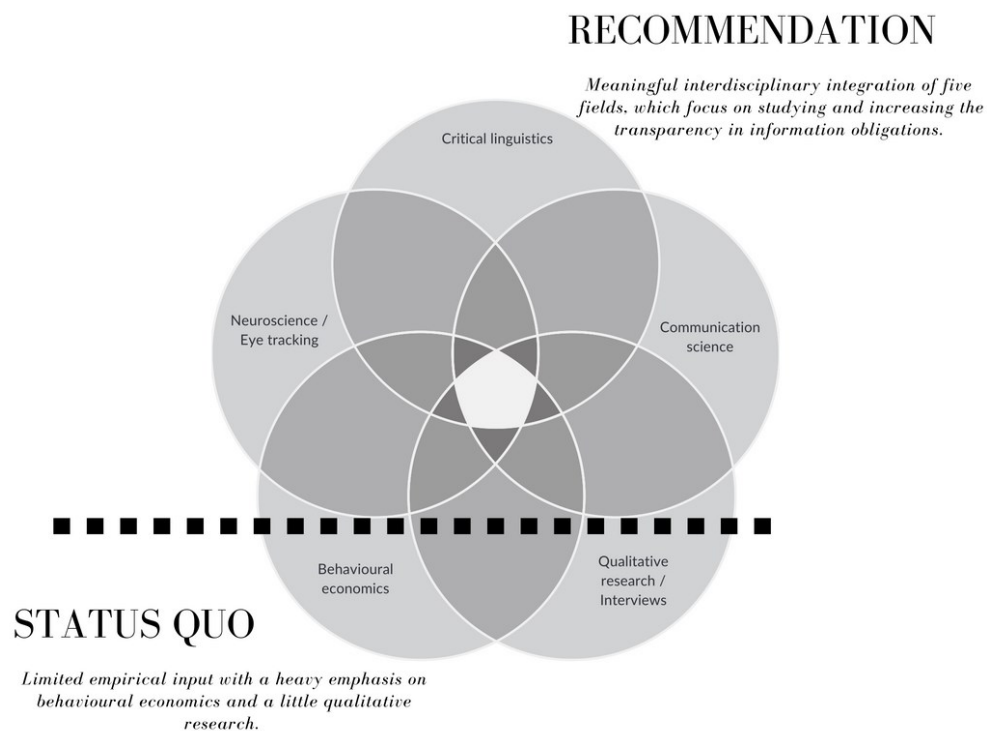
1. The Problem with (Studying) Online Disclosures

The omnipresence of disclosures in modern internet users' daily lives is rivalled only by said users' distaste for acknowledging and reading them (e.g., Milne and Culnan 2004). Although “‘empowering’ consumers through information has become a singularly important element in the regulatory toolbox” (Helberger 2011, p. 337), this “empowerment” has had difficulty in moving out of the quotation marks and into reality. Consumers have many reasons to avoid reading contract terms, cookie policies, or privacy statements: they may find the texts inaccessible (Bakos et al. 2014), lack the financial literacy to fully comprehend the terms (Mak 2012), take shortcuts to avoid reading the lengthy texts, such as to look for a TRUSTe seal (Furnell and Phippen 2012), or automatically equate an online trader's good reputation with their commitment to providing fair terms (Harridge-March 2006). A further group have little faith in disclosures at all, choose not to read them, and share as little personal data as possible in order to avoid privacy-related risks (Park et al. 2012). Collectively, these obstacles seem to spell out the failure of information obligations altogether (Ben-Shahar and Schneider 2014a, 2014b), particularly in the online sector where transaction trust, convenience, and speed are essential to market success (Milne and Culnan 2004) and where the European Digital Single Market continues to underperform (Helberger 2013; Plesea Doru et al. 2014).

Many of the drawbacks of information obligations have been identified in the offline context (see, for example, Ben-Shahar and Schneider 2014a, 2014b). Unfortunately, the European legislator has not yet tried to remedy them in the new, digital transaction environment, i.e., in the setting where consumer-facing information is even more direly needed to serve consumer protection and transaction trust. This

paper proposes an expansion of the disciplinary and methodological pool at the disposal of policymakers in order to optimize information design for the digital market (see Figure 1). Considering the legislative focus of the European legislator on the Digital Single Market and their intention to ensure that existing principles and consumer protection mechanisms continue to be fit for purpose (European Commission 2017a), it is crucial to consider how information design and the principle of transparency could be adjusted to account for the advantages of the online environment.

Figure 1 Domains of scholarship that inform disclosure design in European Union consumer law



Note: We propose a multidisciplinary extension of the empirical basis, which informs EU policymaking with regard to the design of online disclosures. To date, research in the fields of behavioural economics and qualitative consumer surveys has played a

relatively limited role in the creation and subsequent evaluation of online disclosure, and studies in the two domains have occurred largely in mutual isolation (“status quo”). Our proposal adds three more fields to the empirical basis, namely critical linguistics, communication science, and neuroscience. Moreover, we argue for the consistent and comprehensive use of this multidisciplinary combination (“enhancement”), with a firm focus on clear and effective communication and on knowledge transfer between all five now-overlapping domains.

The multidisciplinary approach distinguishes this work from previous attempts to guide legislators, which mainly analysed insights taken from the science of behavioural economics (Oehler and Wendt 2017).¹ Our approach also responds to Helberger’s (2013) sobering call for smart information reduction and disclosure personalisation by striving for a systematic, empirically framed view of standard information presentation, perception, and processing in the online context, since “what works in print may not work online,” as Hogarth and Merry’s (2011, p. 2) study of financial disclosures ascertains. Nowadays, the EU is increasingly open to incorporating behavioural study outcomes into policy, as Helleringer and Sibony (2017, pp. 645-646) conclude and Lurger (2017) encourages. We argue for an even wider scope of relevant research disciplines to support optimized legislation development. The paper takes a first step in that direction with a review and assessment of the disciplines and methodologies that should be used to achieve this purpose.

¹ For a more extensive overview of behavioural economics’ current application in EU legislation as well as its potential for the future, see, e.g., Helleringer and Sibony (2017) and Purnhagen (2015).

This effort begins with an overview of the legal background of select European information obligations most relevant to business-to-consumer (B2C) online transactions for the purchase of consumer products and services. This includes an analysis of the supposed effectiveness, robustness, and the ease of adoption and application of mandatory information obligations in both their past offline and present online form. The paper then turns to empirical work in communication science, document design, and neuroscience – research fields selected to offer a novel, data-centred, interdisciplinary view on the effective regulation of the presentation (i.e., design and contextual requirements) of large volumes of information online. Finally, the paper focuses on the specific methodologies and research designs that have most often been used in empirical inquiry into transparent and effective online communication.

2. The Origins and Pitfalls of Information Obligations

Before diving into the details of the transparency and the operationalization of online provision of mandatory consumer information, it is pertinent to consider its origins as well as the politics and aspirations associated with this instrument. The variety of mandatory disclosures in European consumer law, which may require different online content and, to an extent, different online design, prevents us from addressing them all. Therefore, in this section, we mention the mandatory information obligations most relevant to the online purchase of consumer products and services, as regulated by European consumer law.

Although their application yields variable results, information obligations enjoy high popularity in national and supranational legislatures and often tend to expand (Grundmann 2002; Helberger 2013; Helleringer and Sibony 2017; Howells

2005; Nordhausen Scholes 2009), thanks to the following purported characteristics: Disclosure is effective, widely supported across party lines, and costs almost nothing to implement and enforce, since the costs of these activities usually land onto third parties (see also Ben-Shahar and Schneider 2014b; Franck and Purnhagen 2013). Through a short introduction, we consider each of these characteristics in light of the role they play in the current state of the art of online disclosure and its future salvation.

2.1. Content and Design of Information Obligations in EU Consumer Law

One of the objectives behind the introduction of mandatory information obligations in European consumer law was to restore contractual balance between consumers and traders (Helberger 2013; Luth and Cseres 2010; Tscherner 2014). Consumers suffer transactional disadvantage (Helleringer and Sibony 2017) when compared to traders, with regard to both the amount of information they possess as well as the resources they have to gather and process such information (Nordhausen Scholes 2009). The traders' obligation to provide specific information to consumers, therefore, aims to bring consumers to better, informed decisions (Grynbaum 2010; Helberger 2013; Nordhausen Scholes 2009), as well as to secure their rights by documenting them (Luzak 2005; Mankowski 2005) and making them readily identifiable in case of post-contractual disputes.

It is important to recall that mandatory information duties were part of various European consumer protection measures² prior to the increase in popularity of online

² See, e.g., Council Directive of 13 June 1990 on package travel, package holidays and package tours (90/314/EEC) OJ L 158/59 (Package Travel Directive) or Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the

transactions and before the European legislator defined the average consumer as a circumspect and well-informed actor in the Unfair Commercial Practices Directive.³ This legislative development followed long-standing Court of Justice of the European Union (CJEU) case law on misleading commercial practices, which postulates that average consumers are not easily misled.⁴ The adoption of this benchmark suggests that, for example, a trader's omission of material information should not easily influence average consumers' decision-making because they would already be well-informed. Two remarks need to be made in this respect. First, it is questionable whether the notion of an average consumer should serve as a benchmark for consumer protection in all European consumer law or only with regards to establishing the fairness of commercial practices, and potentially of contract terms (Duivenvoorde 2015; Mak 2011).⁵ Second, recent studies on European consumer law acknowledge the increasing need to protect vulnerable consumers and to broaden the scope of the notion of vulnerability (Domurath 2017; European Commission 2016; Schebesta and Purnhagen 2016).⁶ Therefore, policymakers should continue working to remedy the information imbalance, and the overall effort to increase the effectiveness of mandatory information obligations remains as relevant as ever.

Due to the European legislator's strong tendency to regulate very specific transactions, some scholars characterize information obligations as piecemeal (e.g.,

protection of consumers in respect of distance contracts OJ L 144/19 (Distance Selling Directive).

³ Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market OJ L 149/22 (Unfair Commercial Practices Directive).

⁴ See, e.g., CJEU, case C-210/96 (*Gut Springenheide*) ECLI:EU:C:1998:369 para 37.

⁵ CJEU has started to apply the benchmark of an average consumer in cases assessing fairness of standard terms and conditions. See, e.g., CJEU, case C-26/13 (*Kásler*) ECLI:EU:C:2014:282.

⁶ For a more extensive account of the information paradigm in European law and its behavioural turn, see Franck and Purnhagen (2013).

Schulte-Nölke 2005; Rinkes 2006). The oldest directives, such as the Doorstep Selling Directive from 1985,⁷ did not contain such duties – although policymakers had been discussing information asymmetry problems since the 1970s (European Economic Community 1975). Conversely, as of the 1990s information obligations became a standard part of drafting European consumer protection measures and found their way into such legal acts as the Package Travel Directive and the Distance Selling Directive, alongside a multitude of other consumer protection measures, including, most recently, the Consumer Rights Directive (the CRD).⁸

Despite overall criticism as to the effectiveness of information obligations (e.g., Ben-Shahar and Schneider 2014a), policymakers seem unwilling to forego their use. The recent adoption of the CRD confirms this, as it notably increases the number of mandatory information obligations online traders face (Lurger 2017; Luzak and Mak 2014). One of the explanations may be found in the generally shared view that the adoption of information obligations for traders is a measure that intrudes upon the freedom of the marketplace and party autonomy only to a small extent (Grundmann 2002).

We may expect a certain overlap between the content of mandatory information obligations for traders and service providers in various areas, even if they are regulated by different European provisions. For example, both an online credit provider and an online seller of cosmetics should reveal their name and address,

⁷ Council Directive of 20 December 1985 to protect the consumer in respect of contracts negotiated away from business premises (85/577/EEC) OJ L 372/31 (Doorstep Selling Directive).

⁸ Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights OJ L 304/64 (Consumer Rights Directive).

respectively pursuant to Article 5 Consumer Credit Directive (the CCD)⁹ and Article 6 CRD. At the same time, some information obligations will be area-specific, such as those concerning the annual percentage rate (or APR), one of the main characteristics of consumer credit contracts. The European legislator could simplify its regulation and avoid such an overlap by further harmonizing information content (Lurger 2017). This has not occurred on the European level yet. For instance, whilst Article 6 CRD requires online traders to inform consumers of the main characteristics of a product or a service they are purchasing, it excludes consumer credit contracts from its application.

Similarly, the requirements for information design, including transparency, have not yet been harmonized. In some areas of consumer law, CRD included, policymakers operationalize the requirement of information transparency in unhelpful general descriptions, such as mandating traders to use “clear and comprehensible” language, without additional elaboration, attention to context, or examples (for further discussion, see Helleringer and Sibony 2017). In other sectors, e.g., food or energy,¹⁰ specific information design is prescribed to guarantee the transparency of some salient consumer information. Edinger (2016) even postulates that current regulations on food information have reached “maturity” (i.e., efficiency and efficacy) and seem to facilitate improved consumer choices. Finally, the above-mentioned CCD combines both approaches, standardizing certain consumer credit information in its Annex II, whilst allowing credit providers to display other information more freely, e.g., in the

⁹ Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers OJ L 133/66 (Consumer Credit Directive).

¹⁰ See, e.g., Regulation 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers OJ L 304/18.

advertising stage, “prominently,” “concisely,” and “clearly,” pursuant to Article 4 CCD.

Despite a few areas of consumer protection where the European legislator prescribes particular information content or design, the general information obligations applicable to most online traders on the basis of the CRD lack specific guidance. This allows online traders to blur the lines between the provision of mandatory information and their own disclaimers, which increases the amount of information consumers have to read. Traders are also relatively free to provide such information in various forms and contexts. In this paper, we argue that, as long as information obligations remain an important part of the European legislator’s toolbox, more attention should be given to increasing their effectiveness and minimizing their cost by guiding traders more closely. This can be achieved by adopting an interdisciplinary methodology (Lurger 2017) that we outline in Section 3 and beyond, to determine the best practices of online provision of mandatory consumer information, utilizing the advantages of the online environment. Since our argument aims to convince EU policymakers that (re-)consideration of information design could improve the effectiveness of information obligations, it is necessary to address the purported effectiveness of such duties first.

2.2. Supposedly Effective Consumer Protection Mechanism

The first thing we need to know about information obligations is that they are supposedly effective. They are an information solution to an information problem

(e.g., Helberger 2013; Marotta-Wurgler 2012).¹¹ The EU has embraced the information paradigm and tied it to the achievement of ambitious goals such as creating a more vibrant e-commerce market (e.g., Kroes 2012), protecting consumers equally across the continent (e.g., Reich and Micklitz 2014), and fostering more vibrant trade relations overall. The trouble with the supposed effectiveness of information obligations is that it is rarely questioned or tested, recent Commission-sponsored studies as well as academic research in some specific areas notwithstanding (see, for example, Van Herpen and Van Trijp 2014, Edinger 2016 or Van Kleef et al. 2008 for nutrition labelling effects; Helleringer 2016 and Sah and Loewenstein 2014 for the assessment of mandatory and voluntary disclosure of conflicts of interest in consumer finance). This pertains especially to the assumptions of what would guarantee transparency and effective provision of online information, as the European legislator rarely applies specific information designs and has not yet accounted for the opportunities that the online environment provides. Therefore, one of the first steps towards improving online disclosures is to ground them in empirical findings, based on methodologically sound, multidisciplinary research with information transparency as its main objective. Section 4 provides our recommendations as to disciplines that should be employed in improving online information design in the EU.

2.3. Robust Consumer Protection Mechanism

¹¹ We are focusing in this paper on the function of information obligations as a consumer protection mechanism rather than a purported silver bullet against market failures and a mechanism, which assigns information responsibilities and analytical competences to different stakeholders (for further reading on this point, see Franck and Purnhagen 2013).

The assumption that information obligations are effective has contributed predictably to their rapid expansion, so much so that Ben-Shahar and Schneider (2014a, p. 211) call this phenomenon “the disclosure ratchet”. Like the one-way tool, information obligations do not roll backwards. Effective information obligations expand to cover even more ground, while ineffective ones keep growing in order to reach their undoubted potential. Again, what is at fault here is the failure either to carry out empirical research or to integrate its findings into concrete policy guiding the design and implementation of information obligations. Such research could either assess which type of content diminishes information asymmetry in practice or whether and how information design insights could simplify disclosures. Currently, because disclosures are considered to be a panacea, increasing their dosage can only do good. The EU is guilty of this approach as much as any other legislative body. In its view, “more information is always better for consumers,” as Helleringer and Sibony (2017, p. 622) remark.

A recent example thereof is the adoption of the CRD, which overwhelms online traders with the obligation to disclose at least twenty different pieces of information (Luzak and Mak 2014; Nordhausen Scholes 2009). The CRD repealed the Distance Selling Directive, which listed significantly fewer such obligations for online traders, namely nine. Consequently, the traders’ burden regarding the online provision of information to consumers has increased substantially. The justification for this change did not come from empirical evidence confirming the benefit of providing even more mandatory information to consumers. On the contrary, studies from the United States, evaluating similar legislative proposals to expand mandatory disclosures, indicated the inefficiency of such amendments (e.g., Marotta-Wurgler 2011).

Instead of commissioning empirical studies on this matter, the European legislator took online traders' interests into consideration and drafted the mandatory information obligations of the CRD to be exhaustive, i.e., barring Member States from adding further information obligations. Although harmonization on the European level extended the list of information obligations, cross-border traders were still supposed to benefit from lower compliance costs thanks to uniformity (European Commission 2017b). Unfortunately, the European legislator, endangering its own agenda, left a window open in Article 6 para 8 CRD, which still could lead to an extension of information requirements.

The tendency towards expansion of information obligations also exacerbates disclosure fatigue, which is already widespread and diminishes whatever positive effects a particular information obligation may produce (Helberger 2013). Here, too, empirical studies on both traders and consumers have shown that, on average, less is more (as shown in, e.g., Elshout et al. 2016; Hogarth and Merry 2011) and that the best way for information obligations to serve their purpose is to keep them in check. Further studies could assess the effectiveness of particular online disclosures, as well as how online information design could counteract disclosure fatigue. Our recommendations in Section 5 address these issues as well.

2.4. Easily Adopted Consumer Protection Mechanism

Both mandatory information obligations and the principle of transparency are well-established in European consumer law as mechanisms of consumer protection. One of the reasons the EU has taken to mandatory information obligations is because this mechanism has universal political appeal. On the other side of the Atlantic, United

States legislators habitually unite in (almost) unanimous drives to introduce and expand mandatory disclosures (e.g., Marotta-Wurgler 2011). Fighting market failure with information is the most acceptable solution for the two dominant political doctrines: “[Mandated disclosure] does not offend and generally appeals to the two fundamental political ideologies, the free-market principle, laissez-faire, and deregulation on one hand and the autonomy principle, consumer protection, and human empowerment on the other” (Ben-Shahar and Schneider 2014a, p. 208). Good intentions and overwhelming support might, therefore, also cloud the judgment of European legislators and lead them to dive headlong into introducing information obligations as an easy fix.

Additionally, the recent experience with the adoption of the CRD demonstrated that the drafting of information obligations is not the most controversial part of the legislative process. Despite the process itself stretching over three years, the European legislators’ uncertainty revolved mostly around the further harmonization of measures against unfair contract terms. In other words, the legislators’ opinions differed predominantly on the character of information obligations’ harmonization – minimum or full – rather than on questioning their overall *raison d’être* or scope (e.g., Grundmann 2013; Weatherill 2012).

Therefore, we do not expect our recommendations for further harmonization of online information design to stir competence questions in EU law. We aim to improve the effectiveness of already existing measures rather than create new ones; especially since further regulation of information design has already taken place in particular areas of European consumer law (see, e.g., Heinzle and Wüstenhagen 2012; Van Kleef et al. 2007). In contrast to the existing standardized measures, we suggest

exploiting the advantages of the online environment to improve the effectiveness of information design across European consumer law.

2.5. Easily Applied Consumer Protection Mechanism

The final ace up the sleeve of information obligations is their low cost. They require only minimal bureaucratic effort on the part of governments and regulators, whilst traders carry the burden of compliance and implementation (e.g., Ben-Shahar and Schneider 2014a, 2014b). In the context of the EU, the costs of regulation are even more diffuse since enforcement and litigation usually remain on the Member-State level (Garcia Porras and van Boom 2012). Hence, online traders find themselves in an ambivalent and seemingly disadvantageous position. On the one hand, they are meant to bear the costs of drafting transparent (pre-)contractual information; on the other, they have little incentive to do so because enforcement is lax and crafting truly informative disclosure is costly. Therefore, they typically choose to pass the high information costs on to consumers in the form of legally sound yet unintelligible online disclosures. Research on consumer trust in e-commerce (e.g., Milne and Culnan 2004; Plesea Doru et al. 2014) suggests that consumers tend to be put off by information that is difficult to read. Arguably, online traders make a poor trade-off by saving costs but losing consumer trust as a result thereof.

As discussed already, the compliance costs resulting from the CRD's increased information requirements were meant to be offset through the advantages of maximum harmonization (European Commission 2017b). During the European Consumer Summit 2016, it was reported that 60 per cent of traders considered information obligations beneficial, but the same amount also recognized that

compliance costs have increased (Centre for Strategy and Evaluation Services 2016). Such additional costs would likely be passed on to consumers (OECD 2007).

Any future overhaul of information obligations, therefore, will require careful consideration of actors' costs (Ben-Shahar and Schneider 2014b) and a re-design that affords online traders reliable and easy compliance and simultaneously lightens the consumers' burden. This is where both empirical research that goes beyond behavioural economics, as we argue below, and political science should step in and provide collaborative insights for the design of smart legislation that can keep the costs of mandatory information obligations for legislators low, without overburdening online traders and consumers.

2.6. Response to Critiques of Mandatory Information Obligations

Among the sobering studies on the subject, Ben-Shahar and Schneider (2014a, 2014b) offer one of the most systematic reviews of the apparent failure of mandated disclosure. They cite a wealth of examples from extant US-American legislation, standard forms that have grown far beyond their usefulness, and real-life situations that illustrate the numerous pitfalls and contextual dependencies of what can be considered transparent disclosure. Hogarth and Merry (2011) review the results of rigorous consumer tests by the Federal Reserve Board and reveal disclosures' unreliable yield in the field of personal finance, with no clear solutions in sight.

Specifically in the online context, many other authors have already proclaimed online disclosure inadequate when it comes to engaging and educating consumers in order to correct market imbalances (Ayres and Schwartz, 2014; Bakos et al. 2014; Bar-Gill et al. 2017; Bar-Gill and Board 2012; Howells 2005; Lee et al. 2017;

Marotta-Wurgler 2012; Seira et al. 2017). Some even view contemporary online disclosures as mere compliance instruments that safeguard companies from possible legal action and, thus, were never seriously meant to educate consumers (Furnell and Phippen 2012).

Yet other scholars (see, for example, Willis 2008) are ready to abandon information obligations altogether and instead propose consumer protection measures whose success does not hinge on customer knowledge at all. Studies on cognitive biases and individual consumer variations when it comes to reading and implementing disclosures, such as Bertrand and Morse (2011), raise the question whether standardization can ever work. Consequently, authors like Faure and Luth (2011) advocate for a shift of focus from information obligations to more substantive policy intervention to remedy market failures.

This paper follows the realistic assumption that mandated disclosure is here to stay and, therefore, empirical and theoretical efforts on the subject, which demonstrate it requires an intervention, should be considered further. If we were to narrow the original problem of (studying) the instrument down to a single point, it would be the deficiencies of empiricism involved in both designing online disclosure guidelines and studying how businesses implement, and customers perceive, the resulting texts. For example, after the last revision of the ePrivacy Directive, there was no European norm on how internet service providers should convey to internet users, who often are end consumers, mandatory information on the gathering and processing of their personal data. National policymakers struggled to implement this directive properly, and only some national authorities issued more specific guidelines on this matter, such as in the UK (Luzak 2014). Even those clearer and more specific guidelines still did not stem from rigorous academic research.

Critique notwithstanding, some progress is also evident. For instance, the European Commission's Consumers, Health, Agriculture and Food Executive Agency (CHAFEA) sponsored a study of consumers' attitudes towards and interactions with contract terms and conditions online (Elshout et al. 2016). It came on the heels of other consumer research initiatives, most of which fall under the umbrella of behavioural economics and focus on the impact of offline and online information on consumer choices in healthcare (Alemanno 2015; CHAFEA 2014), personal banking (TNS 2012), retail investment (Chater et al. 2010), food shopping (EATWELL 2013; Himmelsbach et al. 2014), the telecommunication market (Lurger 2017; Lurger et al. 2016) and sustainability-related behaviours (Heinzle and Wüstenhagen 2012; Leenheer et al. 2014), to name a few important avenues. A consortium headed by The Gallup Organization offers a comprehensive test of a standardized information notice on the now-defunct Common European Sales Law (Gallup Consortium 2013; see also Riesenhuber 2013; Wulf 2016). Hence, the European Commission is growing increasingly aware of the need to get into the nuts and bolts of policy implementation in practice.

3. Guiding Questions and Disciplinary Synergies

The above overview paints a general picture of well-intentioned regulation that is determined to follow the path of information obligations, with varying emphasis on the details of implementation and only sporadic empirical grounding. Despite recent moves towards greater empiricism, particularly in the field of transparent food and energy labelling, the old habits remain deeply entrenched in legislative and regulative practice. We are particularly concerned about the shortage of implementation guides,

which could further improve the information design, contributing to the increased effectiveness of information obligations. This lack is further exacerbated by the European Commission's traditional avoidance of head-on clashes with any one Member State's national legislation (e.g., Faust 2016; Nordhausen 2004). Thus, regulation at best communicates the spirit of a particular rule, delegating its implementation to national bodies. Still, it is feasible to imagine that European regulators could provide concrete examples and more explicit guidance without stepping on any Member State's toes. The field of nutritional and energy labelling may serve as an example here. National regulators might, in turn, welcome such guidance, limiting their need to fill in the gaps or clarify any uncertainties.

With regard to the focus of our research, we propose that the regulation of information obligations would improve if policymakers issued guidelines specifying how to achieve transparency in online contract terms. As we have mentioned above, currently, policymakers mostly use general terms to set requirements of transparency, such as mandating traders to use "clear and comprehensible" language. A few regulatory exceptions that provide for a specific information design, such as nutritional or energy labels, usually only correspond to singular information needs of consumers. Moreover, these specific information designs do not utilize the advantages of the online environment, as they are applicable in both offline and online contexts.

As a starting point to our interdisciplinary review, we pursue the general question of when information presented to a consumer by an online trader can be considered transparent, as demonstrated by empirical research. More specifically, we cover content as well as presentation issues and provide insights into how vocabulary, phrasing, text length, document design, presentation medium and device employed can and do affect the reading and understanding of information disclosures. Based on

a review of the literature, we draw clear-cut plans for concrete and targeted further research with a view to substantiating the insights presented here. Results of such further research should lead to the formulation of specific, actionable guidelines for improving provision of mandatory information online on the EU level.

The following section also highlights the emphasis we place on synergies and dialogue between legal scholarship, policy analysis, and empirical research. Online consumers are best served by accessible and specific (pre-)contractual information. This requires the use of copywriting, formatting and web design, which are the domains of linguistics and communication science. Consumers often decide whether it is worthwhile reading online contract terms, and how much attention to pay to them, based on their presentation (Waller 2017). These choices are better understood with the help of cognitive psychology and behavioural economics. When it comes to reading complex texts such as standard terms and conditions, people often need attention guides and specific patterns of content organization in order to stay on track and get as much information out of a text as possible (Holsanova 2012). Eye-tracking research and neuroscience provide pertinent insights into such aids to understanding. Finally, the EU vision of an “average consumer” (Duivenvoorde 2015; Trzaskowski 2011) and harmonized legislation (Reich and Micklitz 2014) notwithstanding, consumers, traders, and regulators are individuals who experience disclosures in unique ways. While we do not advocate for any level of personalizing disclosure mandates, ethnographic methods such as semi-structured interviews and sociological methods like online surveys are essential for gathering rich insights into individual thought processes, which can then inform educational examples and improve implementation guides. In other words, they would help the EU “listen to its people” (Purnhagen 2015, p. 51). The following section discusses each of these research

approaches in detail. Our intention is to chart a research path toward integrating the expected insights into a new and improved set of guidelines on provision of information to consumers that could be implemented across the EU.

4. Empirical Insights

As discussed above, there are a few disciplines that can inform the debate on improving information duties. Whilst we do not claim that we have exhausted the vault of research related to the provision of information in all disciplines, the empirical findings and principles from human communication research presented below could be recommended to policymakers interested in drafting effective information obligations based on empirical findings, rather than on blind faith that presenting troves of information with little concrete guidance could work.

4.1. Communication Science and Information Design

Communication science has put a lot of effort into studying the patterns and notions of effective information design, focussing especially on online media due to their ever-growing relevance. Ground-laying work on the conceptualization of online communication (e.g., Walther 1996) suggests that due to the internet's inclusiveness, accessibility and interactivity it not only mediates but also modifies and directs the communication processes it hosts. The profound effects of the online communication environment, therefore, need to be considered carefully in the evaluation and improvement of online information duties.

The first area in which communication studies can help is content presentation, i.e., layout. Whilst the term is usually associated with print media, Waller (2017) makes a strong case for its role as a strong determinant of communicative outcomes in web pages as well. The author identifies layout as “a major infrastructure for reading and writing in an age when few make time to engage with long linear texts” (Waller 2017, p. 177). Citing the print and online front pages of *The Guardian* as an example, he bemoans the loss of cohesion, hierarchy and multimodal metaphor that occurs when a story moves from print to web. It is not only expressive potentials (meaning the text’s structural and content-based means of transmitting information) that are lost when the layout of a text is removed. The lack of attention guides (Holsanova 2012) and other visual signposts makes it more difficult for readers to stay focused on the page and follow the path to reading and understanding the complex text before them. Subheadings and different fonts and colours for especially important information are used reasonably often at present, but additional research indicates that graphical (Panzarasa et al. 2016) and tabular (Mayer 2002) representation or summation of information greatly enhance understanding and retention, allowing for multimodal information transfer (e.g., Bateman 2017) and more effective communication. Such multimodal enhancement of complex disclosure texts could be operationalized in a number of ways that would neither dilute the legal meaning nor strain the web design: from a smart text-box design enhanced with attention-guiding arrows which connect relevant sections as the reader goes through the text, to an automatically scrolling page with a dynamic gaze guide, the possibilities for enhancing reading comprehension and text sequentiality are endless. Their empirically determined usefulness is the only real constraint of relevance here.

Effective communication can also make better use of online media's well-established core affordances. One of the internet's most distinct features is the hyperlinking of content. This affords web authors the unique opportunity to link related concepts and build semantic networks. Djonov (2005; 2007) has researched the structure and effects of hyperlinked web content and concludes that hyperlinking within a document enhances learning and conceptual thinking in adolescents. This finding can readily be applied to online disclosures, using the hyperlinking of major concepts to allow readers quick access to terms and passages of interest. Such an application might seem at odds with European case law. In case C-49/11, *Content Services Ltd v Bundesarbeitskammer* the CJEU ruled against the provision of pertinent contract information via hyperlink and deemed that the practice violates Article 5 Distance Selling Directive. Namely, in the given case consumers would need to click on a hyperlink to access mandatory information, which traders should have given to them.

Consequently, an inactive or unaware consumer, who would not click on the hyperlink, could miss important transactional information. Hyperlinks can indeed "hide" pertinent information, but they can also emphasize, elucidate, and interconnect it, as communication research has demonstrated. As a result, it could be argued that the use of hyperlinks to provide any less relevant information, e.g., information that is not mandatory, could benefit consumers as it would shorten disclosures on the main website. Whether mandatory information could be disclosed to consumers through the use of hyperlinks is more debatable, as it is likely consumers' attention would need to be explicitly drawn to such hyperlinks, taking away any doubt about the traders' intention to hide this information.

Interestingly, research sponsored by the Commission has made the case for incorporating more detailed information accessible via mouse click and displayed in pop-ups or drop-downs (CHAFEA 2014). The difference between such mouse clicks, pop-ups or drop-downs as opposed to hyperlinks is that the former may be activated without specific action on the part of the consumer, which still allows passive consumers to obtain necessary information. Harnessing hyperlinks' navigation and semantic-structure potentials, alongside the already recommended mouse clicks, pop-ups and drop-downs, appears to be a fruitful path to pursue.

This addition would seem especially relevant in light of research showing that hyperlinking also enables readers to go through the nodes of the respective document in their own preferred order (Lemke 2002). The freedom to do this can increase understanding and also keep the reader engaged. A rigidly predetermined static path is a natural attention turnoff, whereas a series of choices that guide the recipient through the maze of a disclosure document is much more likely to prove stimulating and attractive enough to keep the reader moving through the text and actively acquiring the information it contains. Using hyperlinks within a disclosure document and the resulting customized reading paths should not be misinterpreted as infractions against the above-mentioned CJEU's ruling. After all, we are talking about situations where hyperlinks are used by traders to facilitate consumers' readership. Furthermore, consumers' attention is not only clearly drawn to the information that hyperlinks contain, but there is also potential for enhanced attention being paid as a result of consumers' ability to receive information in the fashion they find most amenable. This is the opposite of the intention behind the trader's use of hyperlinks in the *Content Services* case.

In a study of self-directed digital learning by Phillips (2016), students unanimously report satisfaction with being able to follow their own personalized learning pathways and with the processes of custom reading and learning environments that are easy to navigate. In a further study that addresses the high dropout rates in online courses (MOOCs), Henning et al. (2014) explore student retention strategies and recommend establishing a fixed number of predefined learning pathways enhanced with semantic annotations – something which thoughtful hyperlinking within a document can effectively approximate. Grant and Basye (2014, p. 1) observe that digitally supported self-directed learning affords learners “more control over, a sense of ownership of, and accountability for the learning methodologies” of their choice, resulting in greater engagement and improved knowledge acquisition. In sum, empirical results provide an alternative, positive view of affording consumers certain freedoms as they peruse online disclosures.

4.2. (Critical) Linguistics

The language used in disclosures has crucial effects on their understandability and comprehensiveness. Convoluting sentence structure, extensive use of legal jargon and a general tendency towards prohibitively high reading levels (i.e., advanced vocabulary, grammatical and syntactical choices) have plagued disclosure texts for decades (Bakos et al. 2014; Marotta-Wurgler 2012; Milne and Culnan 2004). Empirical studies on the subject have uncovered a disheartening status quo, reviewed below. Furthermore, critical linguistics (e.g., Pollach 2005) identifies important ways in which grammar and syntax muddle responsibility, assign agency, and create

various degrees of rapport with the reader to produce variable levels of comprehension, trust and truthful communication.

Literacy, in its textual (e.g., Ben-Shahar and Schneider 2014a; Luke 1989), financial (e.g., Ben-Shahar and Schneider 2014b; Mak 2012) and media (e.g., Livingstone 2004) varieties, is a major determinant of the success of information duties as a regulatory mechanism. Unfortunately, it is becoming clear that most information provided to consumers poses significant challenges to understanding because it does not match its recipients' reading and comprehension abilities. Such information, therefore, not only fails to fulfil its primary purpose of informing and empowering consumers but also does not truly comply with EU consumer law, in that it avoids meeting the standards of clarity and comprehensibility put forth in directive after directive. Whilst there is no way to completely circumvent some of the terminology a comprehensive information text must contain (simplifying language excessively can, in fact, impair understanding – see, for example, Ben-Shahar and Schneider 2014a, Chapter 9), the grammatical and syntactic choices surrounding that terminology can easily be geared towards brevity and simplicity, without compromising on the content of information. Elshout et al. (2016) demonstrate the positive effects of meaningful and reasonable simplification: Consumers understand and retain the disclosed information better and also report higher satisfaction with shorter, simpler terms and conditions. Notably, shortening (i.e., eliminating information) does not diminish trust, which suggests that readers attach greater value to understandability than to exhaustiveness.

Diving deeper into sentence structure and word choices, we quickly find that they are relevant to disclosure comprehension not only with regard to complexity. As Pollach (2005) demonstrates, the phrasing of privacy notices and other customer-

oriented texts affects understanding in more ways than one. The way a notice is constructed syntactically and grammatically establishes social relationships of power and agency. Moreover, it guides the reader's thought processes (i.e., inferences and deductions about what has been read) both while they are reading the document and afterwards. These language effects can be used both to clarify and to obfuscate the processes of personal data handling, and they are hard, if not impossible, to regulate effectively. It is, therefore, crucial to consider them more closely with respect to improving information obligations.

Fowler (1985) provides a useful checklist for examining a document from the critical linguistic perspective, focussing on lexical processes, transitivity, syntactical transformations, modality, speech acts, implicature and personal addresses and references. All these elements relate back to earlier work in critical discourse analysis, such as Fowler and Kress (1979), Halliday (1978), and Kress (1985). Further, they have remained prominent in later, more systematic accounts of the method (see, for example, Wodak and Meyer 2009). In a nutshell, critical discourse analysis posits that language, and especially grammatical forms, allow text producers to influence, inform or deceive their readers because with the variety of available expressions it is possible to construct distinct (and highly subjective) representations of reality. Using Fowler's (1985) checklist above, Pollach (2005) found that a sample of privacy notices employed by 28 online retailers and travel agencies frequently used obfuscating strategies in their handling of private information, usually by depriving readers of their agency and employing a large amount of modal verb constructions (such as *may*, *might*, *could*, etc.), rhetorical questions and persuasive appeals to common practice or fear. All of these deliberate choices of language work as sophisticated techniques used

by many retailers to present privacy notices in such a way that consumer doubt and dissent are minimized.

The above review suggests that the road to better provision of information requires serious consideration of the use of language – not only from the traditional angles of reading levels or brevity, which have been discussed frequently in the literature. Specific grammatical choices such as passive voice, nominalization and personal reference modify understanding and can impart a false sense of security, detachment, irregularity, responsibility, or powerlessness when it comes to consumers reading (pre-)contractual information. Regulation of information obligations should, therefore, address at least those language practices that are highly likely to mislead, so that it can improve disclosures and allow them to serve their purposes better.

4.3. Eye-Tracking Research and Neuroscience

Neuroscientific studies of text perception can lend a helping hand in designing and testing new, better formats for provision of information. Eye-tracking research can both shed light on the existence of the average, reasonably well-informed and circumspect consumer – and explore the usefulness of this concept as a starting point for drafting regulations. In a study of how novices and experts read a multimedia presentation, Bucher and Niemann (2012) found that less informed recipients spent significantly more time jumping across different areas of the projected text, indicating impeded understanding and a less structured perception process. Such studies point towards the potential negative effects of formulating disclosure with a relatively sophisticated reader in mind. Whilst the costs and pitfalls of simplifying disclosures or educating the general public to read them in their present form cannot be denied,

continuing on the old path and leaving the vast majority of consumers who read disclosures confused and frustrated is similarly costly.

The study above is part of a larger strand of research built around cognitive load theory (Sweller 1988). For this particular example, we can invoke one aspect of it, namely the expertise reversal effect (e.g., Kalyuga et al. 2003), which postulates that novice learners benefit from close guidance, while more advanced learners (i.e., “experts”), on the contrary, thrive when faced with less detailed instructions. Since reading (pre-)contractual information is essentially a learning task, matching content with ability is essential to successful knowledge acquisition. Eye-tracking studies such as the ones by Bucher and Niemann (2012) aptly demonstrate the detrimental effects of the mismatch between content and expertise.

Another area where eye tracking can help make information more accessible and effective is information design, which is also directly linked to cognitive load theory. Holsanova and colleagues have spent some time investigating information design principles and their findings have a direct bearing on the case of information obligations. In their studies on the content-organisational principles of spatial contiguity and dual scripting (e.g., Holsanova et al. 2009; see also Johnson and Mayer 2012), the authors have repeatedly reported that keeping similarly themed content in direct mutual proximity (i.e., spatial contiguity design) enhances understanding and retention and reduces cognitive load, while spacing such content out through different sections of a document (i.e., split attention design) has the opposite effects. Although this may sound like a truism, these findings confirm empirically what many would deduce intuitively: Properly compartmentalized information is easier to understand and retain. Despite this, some disclosure documents blatantly break with the good

practice of spatial contiguity and resort to splitting readers' attention, thereby making the already dense material even harder to grasp.

Neuroscientific studies thus provide further empirical evidence for what disclosure scholars have suspected for some time: There is little support for a one-size-fits-all approach to drafting disclosures, and the organization of content within these texts must follow a coherent thematic structure. The former claim is somewhat of a thorny subject in the field, as it fundamentally opposes the existence of standardized and harmonized information obligations. Conversely, this finding could also lead to information obligations being drafted in a few versions, e.g., depending on the benchmark of consumer they would be addressing – average or vulnerable, expert or novice, and so on. The latter claim, nevertheless, can be incorporated more easily into existing information obligations and would require minimal effort to remedy a significant shortcoming – whether this requirement was adopted by policymakers or voluntarily applied by traders.

4.4. Audience Studies and Expert Interviews

Consider this apt observation: “Disclosers find that human situations are trickier than lawmakers anticipate” (Ben-Shahar and Schneider 2014a, p. 228). Shifting the focus away from the information's content and presentation, empirical research should also consider human subjects and their interactions with the mechanism. Studies of consumers' reading habits (e.g., Elshout et al. 2016; Furnell and Phippen 2012; Gallup Consortium 2013), relevant literacy (e.g., Mak 2012), and the extent to which the provided information has an impact on decision-making (e.g., Franken 2009; Himmelsbach et al. 2014; Leenheer et al. 2014; London Economics 2013; O'Shea

2008) are in apparent agreement that contract terms are forbiddingly complex and inaccessible, mainly due to their length and convoluted language. While these findings appear to have universal validity, they also do very little to provide traders drafting (pre-)contractual information with actionable insights. Here, findings from media audience studies as well as targeted expert interviews can greatly assist empirical legal studies to further understand what is effective (and ineffective) with respect to the ways in which traders disclose information, consumers read said information, and legal professionals evaluate both processes. Previous efforts in this area (Elshout et al. 2016; Hirschprung et al. 2016; Homburg and Stebel 2008; van Boom et al. 2016) have substantiated our understanding of consumers' distaste for the status quo regarding the provision of information and also offered some concrete dos and don'ts for drafting more comprehensible documents. An empirical drive initiated by the European Commission (e.g., Van Roy et al. 2015) has tackled the problem exclusively from the perspective of behavioural economics, leaving approaches that focus on media content and media reception out of the equation – a serious omission which we seek to remedy.

Qualitative interviews (e.g., Brinkmann 2014; Schreier 2012) are one particular method of collecting data whose potential for generating insights has not been tapped sufficiently. Lacko and Pappalardo (2010) set a good example in the field of studying mortgage disclosures and how consumers characterize them in conversation. A challenge here is that in-depth conversations with subjects are notoriously “a messy and slippery business” (Lewis 1991, p. 73). Part of this inherent messiness is that statements from consumers and legislators are often used anecdotally, but are rarely collected in a systematic way and with specific learning goals in mind (Linos and Carlson 2017). Recalling the idea that language has the capacity to construct social

realities and define relations of power, agency and transitivity (Halliday 1978) can help us appreciate that the way consumers, legislators and legal professionals talk about and interpret information obligations can further inform us about how the mechanism is applied in real-life situations. Media scholars have also increased their efforts to make the most out of qualitative interview data in the media reception context, and their insights have been directly applied to the understanding and evaluation of information provision. Schröder's (2000) six-dimensional model for evaluating audience discourses moves away from the simplistic encoding-decoding interpretation (Dahlgren 1998) that dominated media discourse studies. A heightened awareness of differing readings and implications (Schröder 2000, p. 243) anchors analysis and clarifies the contexts of both the interviewee and the interviewer. This makes it possible to obtain a clearer and more objective insight into interviewees' motivations for engaging with the text (in our case texts on information obligations), their ideological stance on it and their levels of engagement with it. To that end, Jansen (2002) adds a variety of applicable qualitative methodologies, including not only interviewing, but also observation, which has seen limited use in the field of policy evaluation.

5. From Disciplinary Insights to Empirically Tested Policy Recommendations

The overview of insights gained by different disciplines into the kind of content and presentation that make communication effective provides some useful directions for future empirical research and policy recommendations concerning information obligations. In this section, we summarize the relevant findings and propose directions for achieving particular policy goals, such as increasing the effectiveness of

information obligations, lowering the cost of information provision, and increasing the share of informed consumers in the general population, to name a few. We break down the task of conducting empirical research on information obligations into several sections that correspond to the problematic areas commonly identified in the literature and place particular emphasis on the discussion of the employed methodological approaches. We summarize these approaches as well as their realistic expansions and improvements in Table 1.

The recommendations that follow may evoke parallels to other scholarly calls for simplifying information provision. They may also seem repetitive and effete in light of Ben-Shahar and Chilton’s (2016) recent experimental study, which demonstrated that commonly applied best practices fail to produce understandable long-form disclosure, and radical simplification down to a few key bullet points is not helpful, either. Still, it is important to note here that the best practices the authors tested were largely developed and implemented under the imperfect, non-empirical conditions we have described above. Furthermore, the disciplinary basis of those best practices is decidedly narrower – and thus less comprehensive – than what we propose here.

Table 1 How can we expand and enhance traditional empirical approaches to studying online information obligations?

Status Quo of Empirical Research	Current Empirical Domain (see also Fig. 1)	(Trans)Disciplinary Recommendations	Further Elaboration
Content analysis	Mainly within the domain of	<i>Critical linguistics</i> <i>Advanced content analysis</i>	

	basic quantitative research	(e.g., correspondence analysis; semi-automated corpus analysis, etc.) <i>Discourse analysis</i> <i>Qualitative analysis</i> <i>Information design</i>	Sections 5.1, 5.2
Survey	Mainly within the domain of basic consumer research	Triangulation with: <i>Qualitative interviews</i> <i>Participant observation</i>	Sections 5.3, 5.4
Behavioural experiments	Mainly within the domain of behavioural economics	<i>Empirically motivated document revisions</i> <i>Eye tracking</i> <i>A/B Testing</i> <i>Media reception studies</i>	Sections 5.1, 5.2, 5.3

Note: The current empirical study of online information obligations remains largely on the surface, grounded in two empirical domains, with methodologies of basic content analyses, stand-alone users' surveys, and behavioural experiments whose conditions often lack empirical motivation. We propose enhancements to each of these approaches with specialized methodologies from the same and/or neighbouring disciplines in order to gather deeper, more robust insights into the form, content, reception, and effects of online disclosures. Further elaboration can be found in the respective subsections.

As evident from the general overview, our main proposal is that the solid empirical work that is starting to grow in the search for improved mandatory information obligations should be enhanced with additional multidisciplinary methodological resources. The enhancements concern four broad areas related to the implementation of information obligations, i.e., content, presentation, comprehensibility, and the human element in these areas.

5.1. Content of Information

While the content of information (texts couched in legal language, convoluted sentence structures, obfuscating linguistic choices) has been heavily criticized, few studies have offered a systematic breakdown of the problems and empirically motivated remedies. An international comparison of online disclosures can reveal recurrent issues as well as national-, European-, or business sector-specific aberrations in the application of EU directives and national legislation. A corpus of online standard contract terms, privacy statements and cookie policies can be submitted to automated or semi-automated critical linguistic analysis in order to ascertain instances of modality, transitivity, nominalisation, passive voice, and other grammatical and rhetorical strategies which obfuscate information and reduce transparency (see, for example, Micklitz et al. 2017). Should significant levels of obfuscating language be found, policy recommendations against the excessive use of modal verbs, passive voice, or nominalized process descriptions must be formulated. Their implementation will not be costly or complicated, and their effects for increasing consumer protection promise to be positive and far-reaching, as recent empirical research (such as Elshout et al. 2016) strongly suggests.

Another aspect of the information's content which merits empirical attention is how compact or diffuse similar concepts are, i.e., are readers required to split their attention and join the dots themselves, or are terms which deal with the same or related legal situations presented in close mutual proximity? This feature of the information corpus can also be mapped automatically, and an obligation to reorganize the content of information is very likely to be low-cost and high-yield.

5.2. Format of Information

The presentation of information has also been clearly identified as a potential burden for consumers. The lack of attention guidance beyond simple headings and the occasional use of all-caps is a problem. Conversely, the opposite extreme is just as bad, i.e., the overuse of divergent attention guidance in the form of multiple coloured fonts or many different font types (for the example of the California “bed sheet”, see Ben-Shahar and Schneider 2014a, p. 23). The implementation of meaningful attention guidance strategies can be ascertained via a semi-automated or manual content analysis of the information corpus. Instances of excessive and counterproductive, overly complex layout can be mitigated by instituting a cap on font types, sizes, and colours. Attention guidance, furthermore, should not be motivated by anecdotal evidence or common sense alone; instead, both empirical media research and neuroscientific studies should be used to guide decisions in this realm.

Hyperlinks are the other formatting feature of the online provision of information. Meaningful hyperlinking can support understanding, learning, and retention. Moreover, the amount of internal and external links can reveal the document’s structure, communicative goals and information efficiency. Hyperlinking can also be mapped automatically in a corpus analysis, and recommendations for its apt internal and sparing external application are easily attainable once it is ascertained that using such a mechanism to the benefit of consumers is approved under European consumer law.

5.3. Devices and Understandability

The type of device on which information is presented plays a major role in consumers' engagement with it. Although responsive design is the norm in modern web design, some tweaks may be required with specific devices and screen dimensions in mind in order to transfer effective content and presentation formats to all common presentation views. The reduction in immediately perceivable layout hierarchy and structure as text is moved to ever more compact screens greatly reduces readability as well as reader motivation. Experimental designs intended for different devices and with different information formats can be used to ascertain the extent of communicative efficiency lost between different screen sizes and layout granularity. These can be complemented by surveys and interviews to gain additional insight.

Hands-on interaction with the text is also an aspect of understandability. The importance of being able to highlight passages or take notes can be explored in the experimental design by allowing a group of participants to mark up the texts they read and then testing whether this improves understanding and retention. The implementation of such a finding remains limited for the time being since not every device can support text mark-up and margin notes. This technical barrier notwithstanding, further empirical proof of the effects of empowering the reader to engage with the text much more closely will inform future information presentation formats.

5.4. Authors, Recipients, and Interpreters of Information

Much empirical legal research focuses on legal provisions such as directives and regulations, and the information obligations contained in them, but there has been

little meaningful empirical analysis of how legislators create and interpret those legal provisions, how traders apply and develop information obligations (with some notable exceptions, see Loewenstein et al. 2014), and how consumers interact with the provided information (apart from the general consensus that they tend not to). Expert interviews with legal professionals can be an initial step towards remedying this deficit. Such interviews should focus on the motivations for specific regulations, how it is intended that they should be implemented, and how their practice is to be evaluated, in terms of specific cases and their resolution. A quantitative amendment to the expert interviews could provide valuable context on each expert, resulting in a data bank of professionals with expertise as to information obligations, who can also be involved in later studies.

The reception side of information obligations can provide more actionable insights than previously attainable through large-N online survey designs. These would concentrate on practical tasks and on the testing of different information formats developed according to empirically verified principles, some of which have already been identified in previous sections of this paper. This design minimizes self-reporting and focuses on real reader-text interaction, which promises richer and more reliable insights that can, in turn, lead to more effective and far-reaching policy recommendations.

6. Conclusion

In the past decades, the European Commission has followed an international trend and passed legislation that requires traders to disclose an ever-growing amount of transaction-specific information in order to, among other things, address transactional

information asymmetry. While they are well-intentioned, some recent research suggests that it is, at best, unclear whether current information obligation practices achieve their purposes. At worst, excessive disclosure requirements may even have a detrimental effect as they do little to educate and empower but create compliance costs for traders that in competitive markets will be passed on to consumers.

We have indicated the inconsistencies of the current legislative practice of either drafting very general requirements for transparent disclosures or specifying them in detail for isolated consumer protection issues. According to our argument, the effectiveness of mandatory information obligations can only be improved if more scientifically sound, empirical data on consumer behaviour are taken into consideration. As a first step towards filling this knowledge gap, we have carried out a systematic, structured, and objective review of relevant studies from disciplines such as communication science, linguistics, neuroscience, cognitive sciences, and the social sciences. Our multidisciplinary review has led to the identification of empirically verified principles that can be used to improve the design and implementation of information obligations; whether to further guide policymakers where transparency requirements have not yet been given a specific form or to serve as a benchmark against which the already existing specific information designs could be tested. The below-mentioned principles should, of course, be further verified in empirical research, testing their applicability specifically in mandatory information obligations provided to consumers online.

To begin with, eye-tracking and neuroscience research found that novice users need more guidance and detailed information in order to learn, while experts need freedom to choose their own learning pathways and pace. We propose, therefore, to further examine test findings in the area of mandatory information obligations. This

could lead to the necessity to provide information in both “novice” and “expert” versions, in which details can be either shown or hidden.

In regard to the overall appearance of information, communication science and information design apprise us that complex information should have a specific layout with a clear hierarchy of headings and subheadings, as well as different fonts to emphasize important concepts and passages. To avoid overwhelming the consumer, there should be a limit to how many different emphases can be used in a single document. In future empirical research, the impact of such changes to the layout of lengthy terms and conditions disclosing mandatory information should be assessed.

The same disciplines emphasize the value of internal hyperlinking, which could be used to make the connections between important concepts apparent and help familiarize consumers with them. This should also allow consumers to follow their own reading pathways, so that they can learn in a more personalized way. Pop-up or mouse-over definitions of legal terms and other professional jargon should be added to ensure that consumers understand the terminology. Similar topics, concepts and themes should appear next to each other to make it easier for consumers to draw connections between concepts and reduce cognitive strain. This is another area that will nevertheless require further empirical research, especially since the use of hyperlinks by online traders has been deemed detrimental to consumers so far, as evidenced in the *Content Services* case.

In regard to the language employed, critical linguistics teaches us that disclosures should feature short and simple sentences wherever possible, to match the reading and comprehension abilities of the general population. Terminology should not be rephrased or simplified, but grammar and syntax should be revised to maximize understanding. Excessive use of modal verbs, hazy frequency adverbs,

rhetorical questions, personification, and the passive voice are all obfuscating linguistic strategies that make it harder for consumers to gain knowledge. These practices should be substituted by straightforward statements in the active voice, with concrete frequency indicators and clearly established agency and responsibility. Whilst some empirical research has already been conducted on the impact of simplifying and shortening mandatory information, we suggest an increase in the amount of experiments conducted in order to obtain more reliable and convincing results.

In this paper we have argued that our research results can only be a very first step towards improving online provision of mandatory consumer information. More specific empirical research is required on content, presentation, understandability, and the human element therein. According to our analysis, these areas can only be adequately investigated by employing multidisciplinary methodological approaches. Therefore, we have provided detailed suggestions for suitable research designs. We expect that research carried out along these lines will contribute further towards improving this important policy instrument.

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